

CLAIMS

1. An antigen having a part which is exposed on the surface of a cell at the formation of a tumor mass.
2. The antigen according to claim 1, wherein the tumor mass is a solid tumor formed by subcutaneous transplantation of a cultured cancer cell.
3. The antigen according to claim 1 or 2, wherein the existing amount of the antigen of the solid tumor is increased in comparison with that of a cultured cell of the solid tumor.
4. The antigen according to any one of claims 1 to 3, wherein the existing amount of the antigen of the solid tumor on the cell surface is increased in comparison with that of a cultured cell of the solid tumor.
5. The antigen according to any one of claims 1 to 4, which is a cytoskeleton protein or a mutant thereof.
6. The antigen according to any one of claims 1 to 5, which is myosin or a mutant thereof.
7. The antigen according to any one of claims 1 to 6, which is a non-muscular myosin heavy chain type A or a mutant thereof.
8. The antigen according to any one of claims 1 to 7, which is a part of a non-muscular myosin heavy chain type A or a mutant thereof.

9. The antigen according to any one of claims 1 to 8, which is a sequence of a C-terminal domain of the protein sequence of a non-muscular myosin heavy chain type A or a mutant thereof.

10. The antigen according to claim 9, wherein the sequence of a C-terminal domain of the protein sequence is a sequence of the residue at position 600 to the residue at position 1,960 from the N-terminal of SEQ ID NO:17 in the Sequence Listing.

11. The antigen according to claim 9, wherein the sequence of a C-terminal domain of the protein sequence is any one of SEQ ID NOs:20, 21 and 22.

12. A ligand which recognizes the antigen according to any one of claims 1 to 11.

13. The ligand according to claim 12, which is an antibody.

14. The ligand according to claim 12 or 13, which is a monoclonal antibody.

15. The ligand according to any one of claims 12 to 14, wherein the monoclonal antibody is a human monoclonal antibody.

16. The ligand according to any one of claims 12 to 15, which is a cancer reactive monoclonal antibody.

17. The ligand according to claim 16, wherein the cancer is gastric cancer, breast cancer, colon cancer or esophageal cancer.

18. The ligand according to any one of claims 12 to 17, wherein a heavy chain hypervariable region comprises the amino acid sequences of SEQ ID NOs:1, 2 and 3 in the Sequence Listing, and a light chain hypervariable region comprises the amino acid sequences of SEQ ID NOs:4, 5 and 6 in the Sequence Listing.

19. The ligand according to any one of claims 12 to 18, which comprises a heavy chain variable region comprising the amino acid sequence of SEQ ID NO:7 in the Sequence Listing and a light chain variable region containing the amino acid sequence of SEQ ID NO:8 in the Sequence Listing.

20. A pharmaceutical composition, which comprises the ligand according to any one of claims 12 to 19.

21. The pharmaceutical composition according to claim 20, which is a targeting therapy agent.

22. The pharmaceutical composition according to claim 20 or 21, which targets at a cancer tissue or a cancer cell.

23. The pharmaceutical composition according to any one of claims 20 to 22, which comprises an antitumor agent, an antitumor protein, an enzyme, a gene or an isotope for treatment.

24. The pharmaceutical composition according to any one of claims 20 to 23, which is an antitumor agent.

25. The pharmaceutical composition according to any one of claims 20 to 24, wherein the cancer is gastric cancer, breast cancer, colon cancer or esophageal cancer.

26. The pharmaceutical composition according to any one of claims 20 to 25, which comprises liposome.

27. A labeling agent, which comprises the ligand according to any one of claims 12 to 19.

28. The labeling agent according to claim 27, which specifically labels a cancer tissue or a cancer cell.

29. The labeling agent according to claim 27 or 28, wherein the cancer is gastric cancer, breast cancer, colon cancer or esophageal cancer.

30. The labeling agent according to any one of claims 27 to 29, which comprises a fluorescent, an enzyme, an isotope or an MRI contrast medium.

31. A method for treating a cancer disease of a cancer disease patient which expresses the antigen according to any one of claims 1 to 11, which comprises administering the pharmaceutical composition according to any one of claims 20 to 26.

32. A method for treating a cancer disease of a cancer disease patient having a cell which can be labeled by the labeling agent according to any one of claims 27 to 30, which comprises administering the pharmaceutical composition according to any one of claims 20 to 26.

33. The ligand according to any one of claims 12 to 19, wherein the binding activity of the ligand which recognizes the antigen according to any one of claims 1 to 11 to the antigen is from 0.5×10^6 units/mg to 2.0×10^6 units/mg.

34. The ligand according to any one of claims 12 to 19, wherein the binding activity is from 0.7×10^6 units/mg to 1.5×10^6 units/mg, from 0.7×10^6 units/mg to 1.3×10^6 units/mg, or from 0.8×10^6 units/mg to 1.2×10^6 units/mg.

35. The ligand according to any one of claims 12 to 19, wherein the binding activity is from 0.8×10^6 units/mg to 1.2×10^6 units/mg.